

Dual Hyperovals from Commutative Presemifields

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Recently, we construct a (higher dimensional) dual hyperoval (DHO) over a binary field using a commutative presemifield of characteristic 2. In this talk, we present a (higher dimensional) DHO over a binary field constructed from three presemifields of characteristic 2, two of them are commutative presemifields and one is a presemifield which may not be commutative. We also investigate on the isomorphism problem.

Keywords: dual hyperoval, presemifield, finite geometry